

Industrial minerals in XXI century.

Aksenov E.M. Vedernikov N.N. Central Scientific Research Institute of Geology of Industrial Minerals, Kazan, Russia

Tendencies of world economics need to take into account the development of mineral raw material bases of non-metallic mineral resources. The role of non-metals in economics is defined by large-scale multipurpose application in production of industrial and farm products, in creation of scientific-production technologies and obtaining of constructional materials, composites, special ceramics. Certain types are in the list of strategic minerals. Production summarized volume, produced on the base of non-metals in developed countries is twice as large as of metalliferous, in underdeveloped countries the ratio is reverse. The amount of proved reserves increases constantly and their importance in Russia is adequate to summarized value of ferrous, rare-earth, noble metals and diamonds.

Analysis of state of minerals raw materials bases of different countries shows their marked difference in natural effectivity and technico-economic factors. Russia possesses highly-competitive reserves of apatites, potassic salts, asbestos, gypsum, magnesite, talk et al. But qualitative characteristics of phosphorite deposits are lower than world requirements. Raw-material base of kaolin, barite, swelling bentonites, crystalline graphite is not prepared.

Meeting the requirements in non-metals in XXI century is connected to application of progressive ecologically security technologies of mining, beneficiation, raw material processing such as hydrotechnology, biotechnology, plasma chemistry, with working out methods of raw material modification by producing ceramics, abrasives, fertilizers, sorbents and other not readily available products at the expense of widely spread kinds of natural and technogene raw material (siliceous, carbonate, clay, serpentinites, zeolite-bearing rocks, slags). From geological aspect it is predicted to reveal new geologic-industrial types of deposits and develop minor deposits.